



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/816,876

03/23/2001

Roy Hom

13615.1USU2

6062

20306

7590

04/12/2005

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER

KIM, JENNIFER M

ART UNIT

PAPER NUMBER

1617

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/816,876

Applicant(s)

HOM ET AL

Examiner

Jennifer Kim

Art Unit

1617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 49-59 and 94-104 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 49-57, 59 and 94-104 is/are rejected.
- 7) ☒ Claim(s) 58 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment filed November 15, 2004 have been received and entered into the application.

Action Summary

The rejection of claims 49-58 under 35 U.S.C. 112, first paragraph is hereby expressly withdrawn in view of Applicants' amendment.

The rejection of claims 49-59 under the judicially created doctrine of double patenting hereby expressly withdrawn in view of Applicants' amendment.

New claims 99-109 have been renumbered since the numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 99-109 been renumbered as 94-104 respectively.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 95-104 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 12 and 13 of U.S. Patent No. 6,737,420. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the application are drawn to the treatment of a medical disorder characterized by beta-amyloid deposits which generically encompasses the treatment of Alzheimer's disease as claimed in claims 12 and 13 of the patent. It would be obvious to use Applicants' claimed active agents to treat the disorders of claim 95, i.e., mild cognitive impairment, Down's Syndrome or Hereditary cerebral hemorrhage with Amyloidosis of the Dutch Type since these methods are taught on column 1, lines 25-45 of the patent. Moreover, it would have been obvious to one of ordinary skill in the art to employ the compounds set forth in claim 95 for the treatment of cognitive impairment since the patent teaches the

Art Unit: 1617

compounds are effective for the treatment of Alzheimer's disease which is characterized by cognitive impairment.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 49-57, 59 and 94-104 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the "treatment of Alzheimer's", does not reasonably provide enablement for the "treatment of a disease characterized by beta-amyloid deposits in the brain including mild cognitive impairment, Down's Syndrome or Hereditary Cerebral hemorrhage with Amyloidosis of the Dutch Type". The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

3. Enablement is considered in view of the Wands factors (MPEP 2164.01(a)). These include: nature of the invention, breadth of the claims, guidance of the specification, the existence of working examples, predictability of the prior art, state of the prior art and the amount of experimentation necessary. All of the **Wands factors**

have been considered with regard to the instant claims, with the most relevant factors discussed below.

Nature of the Invention: All of the rejected claims are drawn to a method of treating a disease characterized by beta-amyloid deposits in the brain comprising administering to a patient an effective therapeutic amount of a hydroxyethylene compound of the formula XII set forth in the claims. The nature of the invention is extremely complex in that it encompasses the actual treatment of any disease characterized by beta-amyloid deposits in the brain (i.e. cognitive impairment) such that the subject treated with above compounds improves from any disease characterized by beta-amyloid deposits in the brain.

Breadth of the Claims: The complex of nature of the claims greatly exacerbated by breadth of the claims. The claims encompass treatment of a complex diseases characterized by beta-amyloid deposits in the brains include various of diseases Parkinson-dementia of Guam, sporadic cerebral amyloid angiopathy (SCAA) and dementia pugilistica, sporadic inclusion body myositis (IBM) and hereditary inclusion body myopathy (hIBM) which has potentially many different causes (i.e. hereditary, many different mutations or combination of mutations). Each of which may or may not be addressed by the administration of the claimed compounds.

Guidance of the Specification: The guidance given by the specification as to how one would administered the claimed compounds to a subject in order to actually treat any disease characterized by beta-amyloid deposits in the brain including Parkinson-dementia of Guam, sporadic cerebral amyloid angiopathy

(SCAA) and dementia pugilistica, sporadic inclusion body myositis (IBM) and hereditary inclusion body myopathy (hIBM) in addition to mild cognitive impairment, Down's Syndrome or Hereditary Cerebral hemorrhage with Amyloidosis of the Dutch Type is minimal. All of the guidance provided by the specification is directed towards treatment of **Alzheimer's** disease rather than any disease characterized by beta-amyloid deposits in the brain including mild cognitive impairment, Down's Syndrome or Hereditary Cerebral hemorrhage with Amyloidosis of the Dutch Type, Parkinson-dementia of Guam, sporadic cerebral amyloid angiopathy (SCAA), dementia pugilistica, sporadic inclusion body myositis (IBM) and hereditary inclusion body myopathy (hIBM).

Working Examples: All of the working examples provided by the specification are directed toward the treatment of a single disease, **Alzheimer's** disease rather than any disease characterized by beta-amyloid deposits in the brain including mild cognitive impairment, Down's Syndrome or Hereditary Cerebral hemorrhage with Amyloidosis of the Dutch Type.

State of the Art: While the state of the art is relatively high with regard to treatment of specific disease characterized by beta-amyloid deposits in the brain (i.e. **Alzheimer's disease**), the state of the art with regard to treatment of any disease characterized by beta-amyloid deposits in the brain including mild cognitive impairment, Down's Syndrome or Hereditary Cerebral hemorrhage with Amyloidosis of the Dutch Type is underdeveloped. In particular, there do not appear to be any examples or teachings in the prior art wherein a compound

similar to the claimed compounds was administered to a subject to treat any disease characterized by beta-amyloid deposits in the brain including mild cognitive impairment, Down's Syndrome or Hereditary Cerebral hemorrhage with Amyloidosis of the Dutch Type.

Predictability of the Art: The lack of significant guidance from the specification or prior art with regard to the actual treatment of any disease characterized by beta-amyloid deposits in the brain including mild cognitive impairment, Down's Syndrome or Hereditary Cerebral hemorrhage with Amyloidosis of the Dutch Type in a subject with the claimed compounds makes practicing the claimed invention unpredictable in terms of treatment of any disease characterized by beta-amyloid deposits in the brain including mild cognitive impairment, Down's Syndrome or Hereditary Cerebral hemorrhage with Amyloidosis of the Dutch Type.

The amount of Experimentation Necessary: In order to practice claimed invention, one of skilled in the art would have to first envision a combination of appropriate pharmaceutical carrier, compound dosage, duration of treatment, route of administration, etc. and appropriate animal model system for one of the claimed compounds and test the combination in the model system to determine whether or not the combination is effective for all disease characterized by beta-amyloid deposits in the brain including mild cognitive impairment, Down's Syndrome or Hereditary Cerebral hemorrhage with Amyloidosis of the Dutch Type. If unsuccessful, which is likely given the lack of significant guidance from

the specification or prior art regarding treatment of any disease characterized by beta-amyloid deposits in the brain including mild cognitive impairment, Down's Syndrome or Hereditary Cerebral hemorrhage with Amyloidosis of the Dutch Type with any compound, one of skill in the art would have to then either envision a modification of the first combination of pharmaceutical compound, compound dosage, duration of treatment, route of administration, etc. and appropriate animal model system, or envision an entirely new combination of the above, and test the system again. If again unsuccessful, which is likely given the lack of significant guidance from the specification of prior art regarding treatment of a disease characterized by beta-amyloid deposits in the brain including mild cognitive impairment, Down's Syndrome or Hereditary Cerebral hemorrhage with Amyloidosis of the Dutch Type with any compound, the entire, unpredictable process would have to be repeated until successful. Therefore, it would require undue, unpredictable experimentation to practice the claimed invention to treat any disease characterized by beta-amyloid deposits in the brain including mild cognitive impairment, Down's Syndrome or Hereditary Cerebral hemorrhage with Amyloidosis of the Dutch Type in a subject by administration of one of the claimed compounds.

Therefore, a method of treating any disease characterized by beta-amyloid deposits in the brain including mild cognitive impairment, Down's Syndrome or Hereditary Cerebral hemorrhage with Amyloidosis of the Dutch Type in a subject is not considered to be enabled by the instant specification.

Allowable Subject Matter

Claim 58 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicants' arguments filed November 15, 2004 have been fully considered but they are not persuasive. Applicants argue that new claim 100 (renumbered as 95) is an independent method of treatment claim that corresponds to original claim 49 but it covers treating "Mild Cognitive Impairment, Down's Syndrome, or Hereditary Cerebral Hemorrhage with Amyloidosis of the Dutch Type as suggested in the Office Action, it does not cover Alzheimer's disease. This is not persuasive because upon reconsideration of the claim, it would have been obvious to one of ordinary skill in the art to employ the compounds set forth in claim 95 for the treatment of cognitive impairment since the patent teaches the compounds are effective for the treatment of Alzheimer's disease which is characterized by cognitive impairment. Accordingly, the independent method of treatment claim that corresponds to original claim 49 but it covers treating "Mild Cognitive Impairment, Down's Syndrome, or Hereditary Cerebral Hemorrhage with Amyloidosis of the Dutch Type" would be obvious since these diseases are also characterized by cognitive impairment.

Art Unit: 1617

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Kim whose telephone number is 571-272-0628.

The examiner can normally be reached on Monday through Friday 6:30 am to 3 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sreenivasan Padmanabhan
Supervisory Examiner
Art Unit 1617

Jmk
March 14, 2005